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DESERT CITIZENS AGAINST POLLUTION

17 UNITED STATES DISTRICT COURT
18 DISTRICT OF NEVADA

19 CONSEJO de DESARROLLO ECONOMICO de
20 MEXICALI, A.C.; CITIZENS UNITED FOR
RESOURCES AND THE ENVIRONMENT;
21 DESERT CITIZENS AGAINST POLLUTION,

22 Plaintiffs,

23 vs.

24 UNITED STATES OF AMERICA, GALE
NORTON, SECRETARY OF THE
25 DEPARTMENT OF THE INTERIOR, and JOHN
W. KEYS, III, COMMISSIONER OF THE
BUREAU OF RECLAMATION

26 Defendants.
27
28

U.S. DISTRICT COURT
DISTRICT OF NEVADA
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CASE NO. CV-S-05-0870-KJD-GWF

PLAINTIFFS' OPPOSITION TO
DEFENDANTS' MOTION FOR
PROTECTIVE ORDER

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1 **I. INTRODUCTION**

2 Although acknowledging the need for expedited case management procedures in this case of
 3 great public interest, Defendants nevertheless seek an order prohibiting any discovery, or at least
 4 delaying it in the hope that their motion to dismiss will succeed. More than hopes are needed to
 5 delay discovery and, in any event, no depositions are scheduled until after the October 25, 2005
 6 hearing on the motion to dismiss. Therefore, this Court should determine at its earliest opportunity
 7 what discovery is permitted and permit Plaintiffs to proceed accordingly.

8 This a case that asserts a challenge to the constitutionality of the enabling legislation upon
 9 which the agency action is based. The Supreme Court in Webster v. Doe, 486 U.S. 592 (1988),
 10 made clear that a defendant is entitled to discovery regarding constitutional violations even in an
 11 administrative agency review action. Conspicuously absent from Defendants' motion is any
 12 reference to this leading authority. As Plaintiffs' challenge to the 1988 San Luis Rey Act (the "1988
 13 Act") is a central part of the complaint, this case cannot intelligently proceed if discovery on that key
 14 issue is delayed. As only one important example, Defendants are entitled to explore what the Bureau
 15 of Reclamation meant when it acknowledged in reports before Congress: "The water rights issue on
 16 use of conserved water must be resolved before the full-scale lining could be started. This issue
 17 could ultimately be resolved by negotiation, legislation or litigation." (See 1988 Special Report,
 18 Bureau of Reclamation, All-American Canal Relocation Study at 20, Administrative Record Page
 19 5903, attached hereto as Exhibit "1".)

20 Plaintiffs' right to discovery is even stronger by virtue of the inclusion of a Bivens claim.
 21 Neither of the individual defendants, Norton nor Keyes, submits any reason as to why discovery
 22 should be denied in a Bivens case.

23 Aside from the constitutional claims, the pending claims brought pursuant to the
 24 Administrative Procedure Act ("APA") challenge far more than the exercise of agency discretion and
 25 action. On the administrative claims 5 through 8, the crux of the complaint is that the government
 26 failed to consider or act at all. Hence, if Plaintiffs are constrained to prove a negative on the
 27 selective record produced by the agencies, they will be extremely prejudiced. From what can be

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1 discerned from the record thus far, Defendants failed to consider nearly 15,000 acres of newly
 2 discovered wetlands, the listing of the Yuma Clapper Rail, the changed regional economic
 3 circumstances in the Mexicali and Imperial Valley, new cumulative impacts caused by water
 4 transfers in the United States, and numerous other issues.¹

5 Defendants' motion admirably concedes that the APA does not flatly prohibit discovery
 6 regarding APA claims. Only in limited circumstances is an application for protective order under the
 7 Federal Rules of Civil Procedure permitted. There is no blanket rule against discovery. Here,
 8 Defendants have advanced no colorable reason why Plaintiffs should be barred from conducting
 9 discovery: (1) on the constitutional violation or the Bivens claim; (2) matters outside the
 10 administrative record; (3) the completeness of the record; (4) date of injury and discovery thereof for
 11 purposes of the statute of limitations defense; (5) Defendants' failure to consider the environmental
 12 impact of the new canal construction in Mexico in terms of drying up thousand of acres of wetlands;
 13 or (6) contention narrowing discovery.

14 Discovery outside of the administrative record always is allowed to determine whether the
 15 administrative record prepared by Defendants is complete. An APA claim requires the Court to
 16 conduct a "serious inquiry" of agency decisions. Taking Defendants at their word does not a "serious
 17 inquiry" make, particularly when these Defendants have not been fully forthcoming about the case
 18 authority. Thus, discovery to determine whether the administrative record is complete is both
 19 permitted and necessary.

20 The purpose of discovery also has the practical benefit to all parties (including the Court) of
 21 narrowing the issues raised in the action and in eliminating surprise. Mawby v. United States, 999
 22 F.2d 1252, 1254 (8th Cir. 1993). To advance these important goals, Plaintiffs have propounded to
 23

24 ¹For example, Defendants ignored the Andrade Mesa wetlands that serve as the habitat for listed species, including the
 25 Yuma Clapper Rail, because they did not know about the wetlands until 2001—13 years after the Congressional
 26 legislation that purported to authorize the new canal. The importance of protecting the Yuma Clapper Rail's habitat is
 27 so great that these same agencies decided not to line the canal at a point further west in order to preserve several acres of
 28 wetlands on the United States side of the border. Nevertheless, Defendants have refused to consider the environmental
 impact on destroying thousands of acres of adjoining wetlands further east on the Mexican side of the border. The
 administrative record will not explain why because it was not considered. For judicial review of that inaction to be
 meaningful, discovery must take place. Had these agencies showed the same solicitude for endangered species a half
 mile south of the border (almost certainly the birds fly back and forth to each wetland), the east portion of the canal
 would not be lined either. This is just one of many examples of the incompleteness of this record.

1 Defendants contention discovery. Plaintiffs also have sent Defendants extensive requests for
 2 admissions to ascertain where no disagreement exists between the parties. Plainly, the APA does not
 3 prohibit discovery attempting to narrow the issues regarding the administrative record.

4 Finally, Defendants request that this Court delay discovery by thirty days because Defendants
 5 believe that Plaintiffs' claims have no merit, and they do not want to incur any costs until this Court
 6 has validated Plaintiffs' claims. The Ninth Circuit disfavors discovery stays based on the mere belief
 7 that Plaintiffs' claims do not have merit. Gray v. First Winthrop Corp., 133 F.R.D. 39, 40 (N.D. Cal.
 8 1990). Moreover, Plaintiffs would be severely prejudiced by a delay of thirty days given the time
 9 constraints and goals of the Case Management Order.²

10 **II. THE DISCOVERY REQUESTS**

11 Pursuant to the Case Management Order, Plaintiffs propounded initial discovery designed to
 12 ascertain and narrow Defendants' contentions in this case, and to obtain information directly relevant
 13 to the constitutional and Bivens claims.

14 The discovery propounded to date has been modest. One deposition has been noticed under
 15 Rule 30(b)(6) for Defendants' person knowledgeable on twenty-five key but related subjects. One set
 16 of interrogatories merely covers subjects similar to those listed in the Rule 30(b)(6) deposition
 17 notice. Finally, Plaintiffs served a single request to produce setting forth items for production that
 18 are likely not to be in the Administrative Record. For a case of this magnitude, the requested
 19 discovery was focused and warranted.

20 One major focus of the propounded discovery is to narrow and ascertain Defendants'
 21 contentions. With an administrative record currently exceeding 6,700 pages, and just a couple
 22 months before dispositive motions for preliminary injunction or summary judgment are due under
 23 the Case Management Order, such contention discovery is not only an efficient method to focus the
 24

25 ²If anything, Defendants' motion is premature because it has only in the past few days produced what it contends is the
 26 administrative record, and Plaintiffs need time to determine whether it appears facially complete. Defendants were
 27 required to produce the administrative record by September 16, 2005. On that date, 1,700 pages were produced. As
 28 permitted by the Case Management Order, Defendants were given an additional two weeks to provide a "rolling"
 production of additional documents believed to be part of the record but which for logistical reasons required more time
 to produce. No documents were produced in a "rolling" fashion. Instead, over 5,000 pages were federal expressed to
 Plaintiffs' counsel on September 30, 2005, the last possible day under the Case Management Order. Clearly, Plaintiffs
 have not had sufficient time to evaluate this back loaded production.

1 efforts of the parties on the real issues in dispute, but frankly vital if Plaintiffs are to avoid a search
2 for a needle in a haystack.

3 Discovery is needed in order to supplement the Administrative Record so that this court can
4 conduct meaningful judicial review. Agencies should not be allowed to ignore issues, do no
5 investigation, and then escape judicial review by hiding behind an iconoclastic doctrine precluding
6 discovery.

7 **III. LEGAL DISCUSSION**

8 **A. Evidence Outside The Administrative Record Is Permitted To Support** 9 **Plaintiffs' Constitutional Claims**

10 Defendants contend, without citation, that Plaintiffs' constitutional claims are subject to APA
11 discovery limitations. However, the United States Supreme Court has explicitly allowed discovery
12 concerning constitutional claims brought pursuant to the APA. In Webster v. Doe, 486 U.S. 592
13 (1988), a discharged employee brought an action against the Director of the Central Intelligence
14 Agency seeking declaratory and injunctive relief based on his claim that he was fired because of his
15 homosexuality. Plaintiff alleged that the Director's decision to terminate his employment violated
16 the APA because it was arbitrary and capricious. Additionally, Plaintiff complained that the
17 wrongful termination violated the First, Fourth, Fifth, and Ninth Amendments. The Supreme Court
18 refused to limit discovery on the constitutional claims stating:

19 Petitioner complains that judicial review even of constitutional claims will entail extensive
20 "rummaging around" in the Agency's affairs to the detriment of national security. See Tr. of Oral
21 Arg. 8-13. But petitioner acknowledges that Title VII claims attacking the hiring and promotion
22 policies of the Agency are routinely entertained in federal court, see Reply Brief for Petitioner 13-14;
23 Tr. of Oral Arg. 9, and the inquiry and discovery associated with those proceedings would seem to
24 involve some of the same sort of rummaging. Furthermore, the District Court has the latitude to
25 control any discovery process which may be instituted so as to balance respondent's need for access
26 to proof which would support a colorable constitutional claim against the extraordinary needs of the
27 CIA for confidentiality and the protection of its methods, sources, and mission.

28 ///

1 Id. at 604. Similarly, in Puerto Rico Housing Administration v. United States Department of
 2 Housing and Urban Development, 59 F. Supp. 2d 310 (D.P.R. 1999), the Court authorized discovery
 3 outside of the administrative record based on the presence of a constitutional claim stating:

4 The case at bar, however, has no administrative record with regard to the Title VI and the
 5 constitutional claims, but only as to the 1992 appeal process to determine if Puerto Rico's FEL was,
 6 to put it succinctly, too low. Obviously, then, boilerplate principles of review serve poorly to address
 7 the matter pending before this Court. The United States Supreme Court has held that a plaintiff who
 8 is entitled to judicial review of its constitutional claims under the APA is entitled to discovery in
 9 connection with those claims. See Webster v. Doe, 486 U.S. 592, 604, 108 S.Ct. 2047, 100 L.Ed.2d
 10 632 (1988) (noting that discovery was available against the Central Intelligence Agency in Title VII
 11 cases and that the district court could adequately protect these concerns under the APA).

12 Id. at 328. Here, there is no meaningful administrative record concerning the analysis and
 13 decision as to the water rights at issue. To the extent that Plaintiffs have had time to review the
 14 6,700-page record over the past two days, that record appears to deal primarily with environmental
 15 issues. As in Puerto Rico Housing, this fact militates strongly in favor of permitting discovery.
 16 Simply put, there is nothing to suggest that the APA limits Plaintiffs' discovery on their
 17 constitutional claims.

18 **B. Evidence Outside The Administrative Record Is Permitted To Determine**
 19 **Whether The Defendant Agencies Have Considered All Relevant Factors**

20 Courts have long recognized that supplementation of the record is permitted:

21 (1) if necessary to determine whether the agency has considered all relevant factors and
 22 has explained its decision, (2) when the agency has relied on documents not in the record,
 23 or (3) when supplementing the record is necessary to explain technical terms or complex
 subject matter.

24 Southwest Ctr. for Biological Diversity v. United States Forest Serv., 100 F.3d 1443, 1450 (9th Cir.
 25 1996).

26 Although the scope of discovery may be limited, nonetheless, the court is required to engage
 27 in a "substantial inquiry" of agency decisions. Citizens to Preserve Overton Park v. Volpe, 401 U.S.
 28 402, 416 (1971). Where an agency has neglected to consider issues, it is impossible for a court to

1 determine whether the agency took into consideration all relevant factors unless it looks outside the
 2 record to determine what matters the agency should have considered but did not. Asarco, Inc. v. U.S.
 3 Env'tl. Protection Agency, 616 F.2d 1153, 1160 (9th Cir. 1980). A court cannot adequately discharge
 4 its duty to engage in a "substantial inquiry" if it is required to take the agency's word that it
 5 considered all relevant matters. Id.

6 This exception is illustrated by a claim under NEPA. In NEPA cases, a primary function of
 7 the court is to ensure that the information available to the decision-maker included an adequate
 8 discussion of environmental effects and potential alternatives. Natural Res. Def. Council v.
 9 Callaway, 524 F.2d 79, 90-94 (2d Cir. 1975). As explained by one court:

10 A suit under NEPA challenges the adequacy of part of the administrative record itself the
 11 EIS. Glaring sins of omission may be evident on the face of the statement, see, e.g.,
 12 Chelsea Neighborhood Associations v. United States Postal Service, 516 F.2d 378 (2d
 13 Cir. 1975); Silva v. Lynn, 482 F.2d 1282, 1283 (1st Cir. 1973). Other defects may
 14 become apparent when the statement is compared with different parts of the
 15 administrative record. See, e.g., I-291 Why? Association v. Burns, 372 F. Supp. 223 (D.
 16 Conn. 1974), aff'd per curiam, 517 F.2d 1077 (2d Cir. 1975). Generally, however,
 17 allegations that an EIS has neglected to mention a serious environmental consequence,
 18 failed adequately to discuss some reasonable alternative, or otherwise swept "stubborn
 19 problems or serious criticism . . . under the rug," Silva v. Lynn, 482 F.2d at 1285, raise
 20 issues sufficiently important to permit the introduction of new evidence in the district
 21 court, including expert testimony with respect to technical matters, both in challenges to
 22 the sufficiency of an environmental impact statement and in suits attacking an agency
 23 determination that no such statement is necessary.

24 County of Suffolk v. Secretary of the Interior, 562 F.2d 1368, 1384-85 (2d Cir. 1977).

25 Thus, the allegation that an environmental impact statement failed to mention a serious
 26 environmental consequence or failed to discuss a reasonable alternative permits the introduction of
 27 new evidence outside of the record. Animal Def. Council v. Hodel, 840 F.2d 1432, 1437 (9th Cir.
 28 1998). This evidence is required for the Court to determine what factors should have been
 considered by the agency. Plainly, without evidence from outside the administrative record,
 Plaintiffs cannot possibly demonstrate what evidence the agencies could and should have considered.

25 In the instant litigation, Plaintiffs allege the Final Environmental Impact Statement prepared
 26 for the All-American Canal lining project failed to consider the environmental impact of sealing the
 27 canal and drying up the thousands of acres of wetlands along the Mexican border. Nothing in the
 28 Record on Decision even mentions these thousands of acres of wetlands. So how can the Court

1 conduct judicial review of the administrative record without outside evidence if the agencies
2 involved did not consider these environmental impacts?

3 The complaint alleges that the thousands of acres of wetlands contain listed birds, such as the
4 Yuma Clapper Rail. The presence of that listed species in the few acres of wetlands on the United
5 States side of the border at the western end of the All-American Canal prompted Defendants to
6 decline to line the canal in that area in order to preserve the wetlands habitat for this bird. The
7 Defendants now argue that Plaintiffs cannot obtain discovery to show that the agencies utterly failed
8 to do their job in evaluating these cross-border impacts.

9 **C. Evidence Outside The Administrative Record Is Permitted To Determine**
10 **Whether The Administrative Record Is Complete**

11 Additionally, evidence outside the record is allowed if needed to determine the completeness
12 of the administrative record. In order to make its inquiry the court must have more than the agency's
13 intuitive conclusions, it must have access to the full record upon which the conclusions were based.
14 Mobil Oil Corp. v. FPC, 483 F.2d 1238, 1260 (D.C. Cir. 1973). The administrative record is not just
15 the documents provided by the defendant agencies, rather, "the court must look to all the evidence
16 that was before the decision-making body." Exxon Corp. v. Dep't of Energy, 91 F.R.D. 26, 32-33
17 (N.D. Tex. 1981). The whole administrative record consists of all documents and materials directly
18 or indirectly considered by agency decision-makers and includes evidence contrary to the agency's
19 position. Universal Camera Corp. v. NLRB, 340 U.S. 474, 487-88 (1951). Again, this Court may
20 not simply take the agency at its word that all relevant materials have been produced. Asarco, Inc.,
21 616 F.2d at 1160. Thus, Plaintiffs have the right to conduct discovery to determine if the
22 administrative record is complete.

23 **D. Plaintiffs' Second Count Alleging A Constitutional Tort Is Not Subject To APA**
24 **Discovery Limits**

25 CDEM's Second Count alleging a constitutional tort is not dependent on the APA's waiver of
26 sovereign immunity. CDEM has brought its claim against Gale Norton and John Keyes as
27 individuals under the Bivens doctrine. Bivens v. Six Unknown Federal Narcotics Agents, 403 U.S.
28 388 (1971). Neither Ms. Norton nor Mr. Keyes is a sovereign. Bivens itself held that federal

officials are subject to direct liability for violations of constitutional rights that cause injury to a person's liberty or property. *Id.* at 393. Nothing in the APA affects Plaintiffs' right to obtain discovery regarding this claim. Thus, any protective order requested by Defendants is inappropriate as the discovery requests propounded by Plaintiffs are relevant to the Bivens claim. Or. Precision Indus., Inc. v. Int'l Omni-Pac Corp., 160 F.R.D. 592, 594 (D. Or. 1995) ("The scope of discovery is broad and encompasses any matter that bears on, or that reasonably could lead to other matters that could bear on, any issue that is or may be in the case.").

E. Even With The Limitations Imposed By The APA, Contention Discovery Is Appropriate

"[T]he purpose of our modern discovery procedure is to narrow the issues, to eliminate surprise, and to achieve substantial justice." *Mawby v. United States*, 999 F.2d 1252, 1254 (8th Cir. 1993). The requests for admissions propounded by Plaintiffs do not seek to introduce evidence outside of the administrative record. Rather, this contention discovery simply seeks to understand Defendants' positions and narrow the issues in this action. The APA does not prohibit Plaintiffs' attempts to understand Defendants' positions regarding the administrative record.

Where time is so short before preliminary injunction proceedings must take place, "contention narrowing" discovery has an important function. Why should the Defendants not answer questions about where in this record they consider the Yuma Clapper Rail's chances to survive in the Andrade Mesa wetlands? This would help the Court as much as the Plaintiffs in conducting a reasoned analysis of this record.

F. The Court Should Deny The Defendants' Request To Stay Defendants' Obligation To Respond To Discovery Until 30 Days After The Motion To Dismiss Is Heard

Defendants also request that this Court stay Defendants' obligations to respond to the discovery propounded by Plaintiffs until 30 days after the motion to dismiss is heard. A party seeking a stay of discovery carries the heavy burden of making a "strong showing" why discovery should be denied. Blankenship v. Hearst Corp., 519 F.2d 418, 429 (9th Cir. 1975). The moving party must show a particular and specific need for the protective order, as opposed to making

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1 stereotyped or conclusory statements. Mere arguments regarding the viability of plaintiffs' claims
 2 does not entitle a defendant to a discovery stay:

3 Defendants have done no more than to argue in conclusory fashion that their motions to
 4 dismiss-some of which are yet to be filed-will succeed, and that plaintiff class will not
 5 be certified. Idle speculation does not satisfy Rule 26(c)'s good cause requirement. Such
 6 general arguments could be said to apply to any reasonably large civil litigation. If this
 7 court were to adopt defendants' reasoning, it would undercut the Federal Rules' liberal
 8 discovery provisions. The motions referred to by defendants will be decided in due
 9 course; in the meantime, defendants may only seek to attack the discovery requests by
 10 means of objections, if appropriate, as provided in the Federal Rules.

11 Gray, 133 F.R.D. at 40. Here, Defendants merely argue that a stay of discovery is needed
 12 because it is likely that Plaintiffs' claims will have no merit. This argument does not support the
 13 imposition of a discovery stay and seems like nothing more than a delaying tactic.

14 Moreover, Plaintiffs will be prejudiced by any discovery stay. Prior to the commencement of
 15 this litigation, Plaintiffs negotiated the details of a Case Management Order with Defendants.
 16 Although Defendants reserved their right to file a motion for protective order, the parties agreed that
 17 Defendants would serve their responses to Plaintiffs' discovery requests on November 14, 2005.
 18 Furthermore, the parties agreed that depositions would begin on November 9, 2005. The other dates
 19 in this litigation, including dispositive motions, were calendared with the understanding that
 20 discovery responses would be forthcoming in November. Any change in the timing of discovery
 21 would prejudice Plaintiffs' rights to bring or oppose a future dispositive motion. Moreover, Plaintiffs
 22 bring this action in hopes of enjoining the All-American Canal lining project which is set to
 23 commence early next year. Any modifications to the dates agreed upon by the parties in the Case
 24 Management Order would increase the possibility that the All-American Canal lining project would
 25 commence before this litigation has concluded to the extreme prejudice of Plaintiffs.

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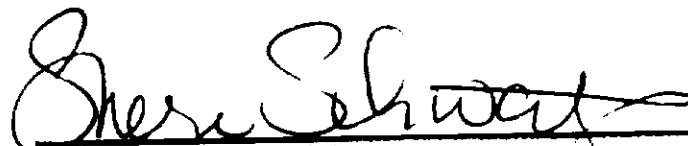
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1 **IV. CONCLUSION**

2 For the foregoing reasons, Plaintiffs respectfully request that this Court deny Defendants'
3 Motion to Limit the Scope of Review to the Administrative Record and For Protective Order.

4 Dated: October 4, 2005

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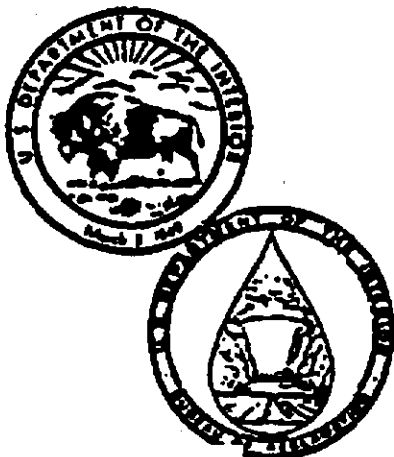
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V. 1

ALL-AMERICAN CANAL RELOCATION STUDY

SPECIAL REPORT

MARCH 1988



**LOWER COLORADO REGION
BOULDER CITY, NEVADA**

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U.S. DEPARTMENT OF THE INTERIOR * BUREAU OF RECLAMATION



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ALL-AMERICAN CANAL RELOCATION STUDY

SPECIAL REPORT

MARCH 1988

Lower Colorado Region
Boulder City, Nevada

UNITED STATES DEPARTMENT OF THE INTERIOR • BUREAU OF RECLAMATION

TC 930, 458 A45 1988

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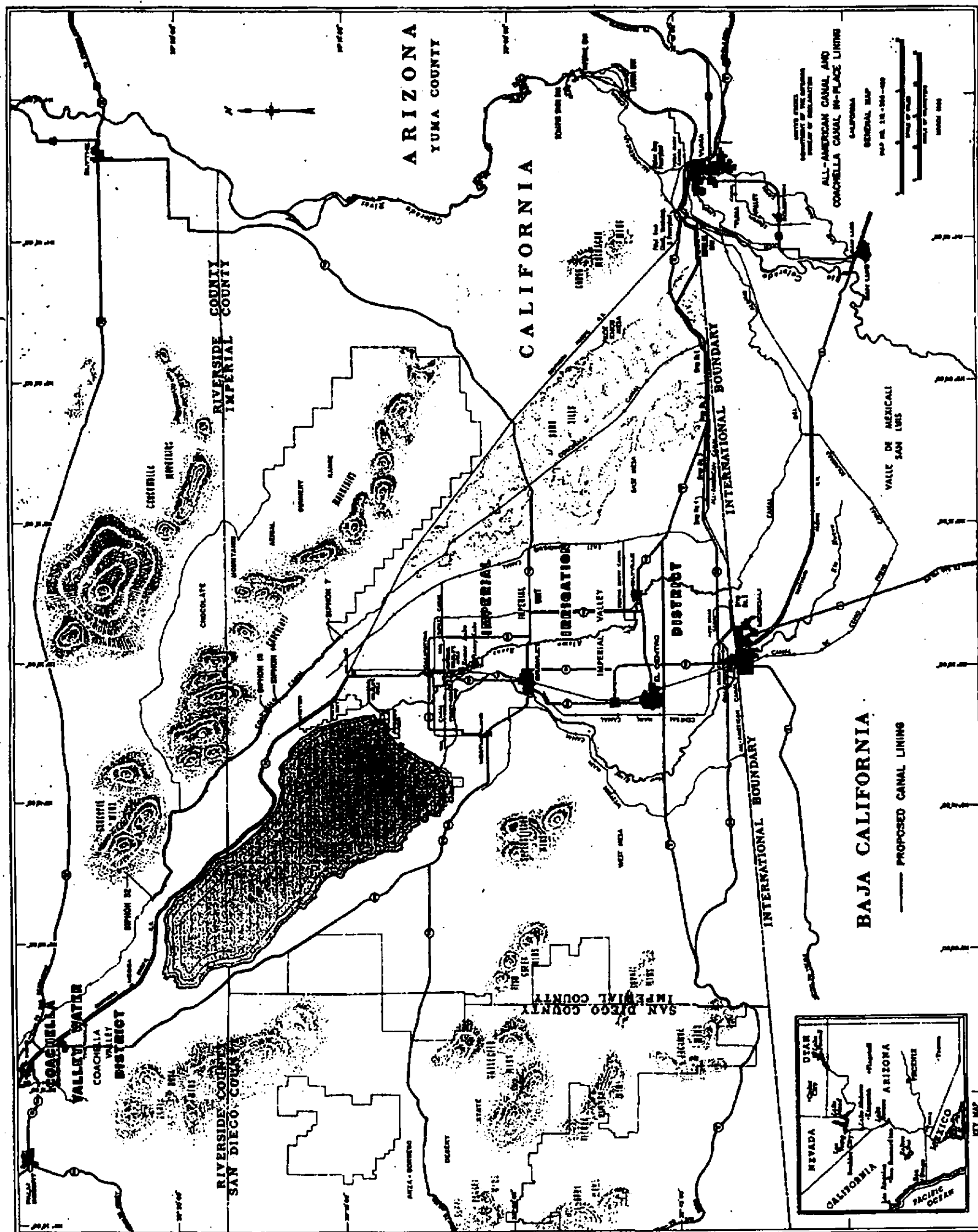
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INTRODUCTION

This special report summarizes the results and documents the completion of the plan formulation activities on the All-American Canal Relocation Study in southern California. The report also provides background information on anticipated future activities that are expected to lead to implementation of an in-place lining program using non-Federal construction funding. Since project sponsors are pursuing authorization through their Congressional delegation, the Department of the Interior (Interior) would not seek construction authorization and would not prepare a planning report.

PURPOSE AND OBJECTIVE

The original purpose of the All-American Canal Relocation Study was to conserve water lost through seepage from the All-American Canal and use it as a source of replacement water for the Yuma Desalting Plant reject stream replacement. Any water not needed for reject stream was to be used to meet water needs in southern California.

Reject stream replacement has now been dropped as a study purpose. The purpose and objective of future activities will be concentrated on determining the viability of conserving water being lost through seepage from the All-American Canal and the Coachella Canal through utilization of in-place lining technology. The conserved water could be used to develop an

additional water supply to meet anticipated water needs in southern California.

LOCATION

The All-American Canal and the Coachella Canal are located in Imperial and Riverside Counties, California. The 80-mile unlined All-American Canal, which roughly parallels the border with Mexico, begins at Imperial Dam on the Colorado River and ends at the Westside Main Canal in the extreme southwestern corner of the Imperial Irrigation District. The 123-mile Coachella Canal originates as a diversion from the All-American Canal at Drop No. 1 near the Mexican border and runs in a northwesterly direction terminating in the Coachella Valley at the north end of the Salton Sea (see the location map).

SUMMARY OF EVENTS

The Bureau of Reclamation (Reclamation) initiated the Reject Stream Replacement Study in 1977 to identify potential sources of reject stream replacement water for the Yuma Desalting Plant. Some possible sources considered during the study included trans-basin diversions, desalting sea water or other brackish water, recharging ground-water and/or developing well fields, and relocating a portion of the unlined All-American Canal. In 1980, the study concluded that the least-cost, implementable

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alternative for providing reject stream replacement water was relocation of the reach of the All-American Canal from Pilot Knob to Drop No. 4. As a direct result of this study, the All-American Canal Relocation feasibility study was authorized in Public Law 89-561, 80 Stat. 707, and initiated in 1984.

During the plan formulation phase of the study, Metropolitan Water District of Southern California (Metropolitan) suggested that the future All-American Canal Relocation project become a municipal and industrial water project funded totally by local California agencies holding water delivery contracts with the Secretary of the Interior (Secretary).

Toward the end of the plan formulation phase of the All-American Canal Relocation Study, Reclamation planners and designers recognized that new technology existed that would allow lining the existing All-American Canal channel in-place without taking the canal out of service. In-place lining could result in a concrete-lined canal costing less, posing fewer environmental problems, and providing more in-line storage capacity and operational flexibility than the relocated canal. Thus, at the conclusion of plan formulation, in-place lining of the All-American Canal had been tentatively selected as the preferred plan.

Recently, Metropolitan and the Coachella Valley Water District (Coachella) indicated their

interest in funding the construction of the All-American Canal and unlined portion of the Coachella Canal using the new technological advances of in-place lining, provided the conserved water could be used in the Metropolitan service area for municipal and industrial water needs. Further, both of these districts requested that the Coachella Canal be included as part of the in-place lining construction.

Reclamation signed a Memorandum of Agreement with Metropolitan and Coachella to share the cost of constructing a prototype to test in-place lining of earthen canals without draining them. Federal activities are now being directed toward the construction of the prototype as defined in the agreement which calls for Reclamation to fund 40 percent of the \$4.2 million prototype and Metropolitan and Coachella to fund the remaining 60 percent.

After successful completion of the prototype, the new technology may be used to line up to 66 miles of major canals delivering irrigation water to the fertile farmlands of the Coachella and Imperial Valleys of California. If a full-scale lining operation is the course of action, two draft environmental statements will be prepared to comply with National Environmental Policy Act (NEPA) requirements--one for the All-American Canal and one for the Coachella Canal. The full-scale in-place lining process could conserve from about 90,000 to 115,000 acre-feet of water now lost to seepage in the All-American and Coachella Canals.

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Metropolitan and Coachella have informed Reclamation that they have worked with their Congressional delegation to introduce H.R. 3988 legislation authorizing the in-place lining of the 28 miles of the All-American Canal between Pilot Knob and Drop No. 4, and the remaining unlined 38 miles of the Coachella Canal. The legislation provides that local agencies holding water delivery contracts with the Secretary, including Metropolitan, as project sponsors, would provide 100 percent of the construction funding in exchange for use of the conserved water. Since no mention is made in the legislation on Federal use of conserved water for reject stream replacement, the United States would still be obligated to develop a source of replacement water for reject stream.

Once the technology is tested and refined for the in-place lining, it should be useful elsewhere in the southwest United States or in other parts of the world where canal lining is warranted but year-round water delivery is required, or where environmental and/or economic considerations preclude the construction of new canals.

Since the in-place lining concept could have wide application throughout Reclamation's service area and elsewhere in the world, Reclamation has an ongoing interest in refining in-place lining technology.

PROBLEMS AND NEED

The last quarter century has been one of expansion and growth for southern California, reflecting the national trend of migration to the warmer climate and greater economic prosperity of the West and Southwest. During phase one of the Bay-Delta Estuary Hearings conducted by the State Water Resources Control Board, the State Water Contractors (SWC), an organization of contractors purchasing State Water Project water, testified that the population in the six-county southern California area where conserved water could be used is expected to increase from the present 15.3 million to 21.3 million by the year 2010. The accompanying municipal and industrial water needs are expected to increase from the current 5.1 million acre-feet of water annually to 6.3 million acre-feet of water annually assuming normal weather conditions. Higher needs could be expected in dry years when rainfall and local ground-water supplies are below normal. With full operation of the Central Arizona Project, southern California's water supply from the Colorado River will be reduced.

The overall water supply from all sources, including the Colorado River, State Water Project, ground water, etc., will be 4.9 million acre-feet for the foreseeable future. Thus, a water shortage of 1.4 million acre-feet is projected by the year 2010 as illustrated in table 1.

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Table 1

**Comparison of Existing Dependable Water Supplies
With Demands for the Southern California SWP Contractors**

Unit: million acre-feet

Existing Water Supplies	Year			
	1980	1990	2000	2010
Local Surface and Ground Water	2.19	2.19	2.19	2.19
Wastewater Reuse	0.14	0.16	0.16	0.17
Imported				
Los Angeles Aqueducts	0.42	0.42	0.42	0.42
Colorado River	1.73	0.80	0.80	0.80
(Metropolitan and Coachella)				
State Water Project	1.30	1.28	1.34	1.35
Total Water Supplies	5.78	4.85	4.91	4.93
Historical and Projected Water Demands	4.45	5.13	5.76	6.33
Surplus (or Shortages) in Supplies	1.33	(0.28)	(0.85)	(1.40)

Source: SWC Exhibit 4, page 3.

The major urban water supply contractor and water user in southern California is Metropolitan, whose service area includes half the population of California. As the largest wholesaler of water, Metropolitan is a good example of future urban water demands for all of southern California. In an effort to assure an adequate future water supply to its service area, Metropolitan is studying an array of possibilities, such as public education programs,

ground-water storage, new State Water Project facilities, wastewater reclamation and conservation, including Colorado River conservation measures. The implementation of water conservation measures is one of the few remaining means to increase usable Colorado River supplies and to help meet projected water demands in southern California. Water conservation and beneficial and efficient use are currently being encouraged by Federal and

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state policies. The combination of all possibilities identified to date, including Colorado River conservation measures and efficient use, will not satisfy the 1.4 million acre-feet annual projected water shortage.

Efficient use practices have long been recognized as an integral part of sound water resource management. In the last decade, concern for system efficiency in the Lower Colorado Basin has been given further impetus by the increasing difficulty of developing surface water supplies and the full apportionment of Colorado River

supplies; by 1990 it is expected that the water demands on the river will exceed the compact apportionment to the Lower Basin States. Irrigation and water districts have become more aware of the benefits of efficient use practices to increase water supplies, reduce farm and labor costs, and improve crop production and yield.

Conserving the seepage now lost from the All-American and Coachella Canals would result in the recovery of a water supply which could be made available for beneficial use in southern California.

PLAN FORMULATION RESULTS

Results of plan formulation activities for the All-American Canal Relocation Study initially favored relocation as the preferred plan. Prior to finalizing selection of the preferred plan, technological advances indicated that the All-American Canal could be lined in-place using a plastic membrane and concrete liner at a lower cost and with fewer environmental impacts than could be achieved with relocation. Since the concept of in-place lining would involve new technologies, Reclamation planners and potential project sponsors recognized the need to construct a small-scale prototype to test a number of engineering and construction questions before embarking on full-scale lining of 66 miles of canal. A 1.5-mile portion of the Coachella Canal has been selected for the construction of the prototype. (A brief description of the in-place lining concept is presented at the end of this chapter to aid the reader in understanding the new concept.)

During discussions to locate an appropriate site for construction of the prototype, cost-sharing project sponsors were identified and potential application of the new technology to lining the unlined portion of the Coachella Canal were recognized. In-place lining the remaining unlined portion of the Coachella Canal is now included as a feature of the preferred plan.

Major plan formulation study activities have concentrated on the All-American Canal as related to relocation. However, through past

studies and historical records, some hydrologic and environmental information is available for the Coachella Canal.

Preliminary in-place lining design concept and construction cost estimates have been prepared for the prototype, a portion of the All-American Canal, and the unlined portion of the Coachella Canal. With the exception of designs and cost estimates, subsequent discussions on plan formulation activities will address the All-American Canal and Coachella Canal with major focus on the All-American Canal.

CONSTRUCTION COST ESTIMATES

Feasibility grade cost estimates were prepared for relocation. Construction cost estimates for in-place lining have been made to a preliminary level of detail and reflect the uncertainties associated with the new technology of in-place lining. A major purpose of constructing the in-place lining prototype is to refine cost estimates and eliminate uncertainties. Construction cost estimates do not include the costs of interest during construction or of environmental mitigation since a final mitigation plan has not been adopted.

All-American Canal

The estimated cost for the construction of relocation is \$133.6 million. The design divided the relocation alignment into four reaches with a design

PLAN FORMULATION RESULTS

flow of 10,155 cubic feet per second in the upstream reach and 7,100 cubic feet per second in the final downstream reach. The design assumes a 50-foot bottom width and ties the relocated reaches into existing control structures.

A preliminary construction cost estimate of \$85.5 million for the in-place lining of the All-American Canal was prepared by Reclamation. This represents a \$48.1 million cost savings over relocation. The cost estimate reflects some of the design uncertainties that exist. The cost estimate is based on placing a plastic liner with a 4-inch concrete cover into 27.8 miles of canal--the total distance between Pilot Knob and Drop No. 4. Further consideration indicates that a 3-inch concrete cover would be adequate and would result in substantial cost savings. Because the area to be covered is smaller in downstream reaches, further refinements could reduce the estimate. This estimate assumes the flow in the canal to be 10,155 cubic feet per second, the bottom width of 130 feet, the depth of 16.9 feet, side slope of 2:1, and above-water lining height of 1.9 feet.

Coachella Canal

A similar preliminary estimate determined that the construction cost for in-place lining of the unlined portion of the Coachella Canal would be \$80 million. The estimate is based on placing a plastic liner with a 3-inch concrete cover into 37.5 miles of unlined canal. The estimate assumes the flow in the canal to be 1,500 cubic feet per second,

the bottom width of 48 feet, the depth of 9 feet, side slope of 2-1/2:1, and above-water lining height of 2.0 feet. Some cost reductions may be possible because preliminary geohydrologic information indicates various reaches of the unlined canal may not require lining.

Estimated construction cost for the in-place lining prototype on the Coachella Canal is \$4.2 million.

WATER SUPPLY

All-American Canal

Seepage accounts for a considerable loss of water each year from the All-American Canal. Statistical analyses of annual seepage loss from the All-American Canal between Pilot Knob and Drop No. 4 indicated an average annual water loss, including evaporation, of 105,300 (rounded to 105,000) acre-feet. (The 95-percent confidence limits range from about 95,000 to 115,000 acre-feet.)

Analysis indicates that in-place lining would have an average annual water conservation potential of 70,300 (rounded to 70,000) acre-feet of water annually. The estimate allows for evaporation and residual seepage assuming seepage rates for typical concrete-lined canals. (The 95-percent confidence limits for the average water savings potential, range from about 62,000 to 78,000 acre-feet.) The water savings potential for relocation could be about 4,000 acre-feet more annually because of the reduced water surface and smaller cross-section of the canal.

PLAN FORMULATION RESULTS

Coachella Canal

Preliminary analysis shows that since 1975 annual water losses on the unlined reach of the Coachella Canal have averaged approximately 35,000 acre-feet. During this period, water losses have varied from a low of 24,000 acre-feet in 1976 to a high of more than 45,000 acre-feet in 1975.

Preliminary geohydrologic data further indicate that savings may be achieved by only lining selected reaches of canal.

COST COMPETITIVE

The cost of conserved water from in-place lining was also determined to be competitive with other potential municipal and industrial water projects in southern California but costs of relocation were only marginally competitive.

Driven by the need to identify additional dependable water supplies to offset the projected 1.4 million acre-feet of water shortage, project sponsors examined both historical water loss data for the All-American and Coachella Canals, and Reclamation's preliminary in-place lining construction cost estimates for these canals. The sponsors have concluded that lining these two canals should be included in an array of other possibilities being considered to reduce projected water shortages. The combination of all projects and actions identified to date will not completely satisfy the projected water shortage.

Coachella's experience with the first 49 miles of Coachella Canal lining indicates that additional benefits are likely associated with lining. These benefits may appear in the form of additional water savings resulting from a change in operational procedures, additional water savings opportunities (i.e., improved distribution system efficiency and other onfarm projects that could be developed because of the lined canal system), and/or cost savings resulting from operational changes. Thus, the amount of water available to Metropolitan may well be a contracted amount that although related to the direct water savings from lining, may in fact differ from the actual direct water savings.

FINANCIAL

Funds for design and construction of relocation would have been provided by a combination of Federal and non-Federal funds. About one-third of the funds would have been Federal funds to cover the cost of reject stream replacement. The remaining funds would have been provided by the local partners.

Funding for the design and construction of the prototype on the Coachella Canal is based on the Memorandum of Agreement that calls for 60 percent non-Federal funds from project sponsors and 40 percent Federal funds. Congress directed Interior to request funding for the the Federal share of the prototype construction. In the event the

PLAN FORMULATION RESULTS

full-scale lining construction takes place, the Federally funded portion of the prototype would be reimbursed by the project sponsors

and would be 100 percent non-Federally funded. The estimated construction costs and funding are presented below in the tabulation.

Construction Item	Estimated Construction Cost (\$ million)	Funding	
		Non-Federal (percent)	Federal (percent)
Relocation			
All-American Canal	133.6	67	33
In-Place Lining			
Prototype (1.5 miles)	4.2	60	40
All-American Canal (28 miles)	85.5	100	
Coachella Canal (38 miles)	80.0	100	

As of September 1987, nearly \$10 million was remaining on the repayment obligation for the All-American Canal. Construction of in-place lining of the All-American Canal and the Coachella Canal would not impact existing repayment obligation of water districts to the United States.

Water diverted into the All-American and Coachella Canals flows through Parker Dam and Powerplant and other powerplants located downstream of Parker Dam. Conserved water used by Metropolitan would be diverted above Parker Dam through the Colorado River Aqueduct. This would result in a reduction of about 100 kilowatthours of electric energy generation lost for every acre-foot of conserved water pumped into the Colorado River Aqueduct. This energy represents a slight power benefit loss.

ENVIRONMENTAL

Since the United States Government holds title to the All-American and Coachella Canals, Reclamation, as the Federal Government's administrator of the canals, is responsible for compliance with Federal laws and regulations, including NEPA. In addition, the project sponsors have requested that Reclamation coordinate and conduct the environmental studies and be the designer and the construction manager of the full-scale lining construction.

All-American Canal

Extensive environmental studies have been completed on the All-American Canal. Of primary concern is the marsh complex adjacent to the canal, and the Federally listed endangered species, the Yuma clapper rail, which is known to

PLAN FORMULATION RESULTS

inhabit the marsh. Reclamation has completed consultation with the U.S. Fish and Wildlife Service (Service) as required under Section 7(c) of the Endangered Species Act, as amended. The outcome of the consultation is that the integrity of the marsh would have to be maintained as a feature to protect the Yuma clapper rail. Other environmental issues of relative importance which have been investigated include the riparian vegetation communities associated with canal seepage, and the aquatic resources of the All-American Canal. These concerns are addressed in the Fish and Wildlife Coordination Act Report prepared by the Service under the authority of the Fish and Wildlife Coordination Act, Public Law 85-624 (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The report outlines recommended fish and wildlife mitigation plans which are presently being evaluated. The All-American Canal environmental studies and consultations completed to date have identified fewer issues associated with in-place lining than relocation. No irreconcilable environmental issues have been identified thus far.

Coachella Canal

Coachella Canal environmental studies have only recently been initiated. To date, actual data collection has been largely limited to the 1.5-mile reach of the canal which has been selected for the prototype construction site. Two major issues of concern are the accidental entry of large mammals (burro deer and desert bighorn sheep) in a concrete-lined canal, and the impact of construction on

water quality and the subsequent effects on the fish in the canal. In response to the first issue, an experimental design of large mammal entry and escape steps, shown later in figure 2 of the discussion of in-place lining, has been incorporated into the design of the prototype.

Investigations regarding water quality are ongoing. Another major area of environmental concern thus far identified for the Coachella Canal lining is the proposed effects on the marsh and riparian zones which are wholly or partially supported by canal seepage.

In an effort to identify these areas, geohydrologic investigations have been initiated, historical aerial photography has been located, and new aerial photography has recently been flown. These geohydrology studies would also be used to help assess the impacts of canal lining on the Salton Sea, the fourth area of environmental concern.

A draft environmental assessment is currently being prepared on the prototype and is scheduled to be completed and released for public review in March 1988. The review is expected to result in a finding of no significant impact.

PUBLIC INVOLVEMENT

All-American Canal

Previous public involvement activities for the All-American Canal Relocation Study consisted of extensive informal contacts and meetings with concerned Federal, state, and local agencies, and

PLAN FORMULATION RESULTS

water management entities. A Notice of Initiation was distributed in 1983 and a newsletter was distributed in November 1984 to all interested agencies and parties. A Notice of Intent to prepare a draft environmental statement on the All-American Canal Relocation was published in the Federal Register in 1985. The Notice of Intent to prepare a draft environmental statement was amended February 1988, to reflect the expanded scope which now includes the Coachella Canal.

Public involvement activities are being closely coordinated with representatives of Metropolitan, Coachella, and Imperial Irrigation District and will continue throughout the process.

Coachella Canal

In September 1987, an interagency environmental scoping meeting addressing the Coachella Canal was held with representatives from the Service, Bureau of Land Management, California Department of Fish and Game, Desert Wildlife Unlimited, Inc., Metropolitan, and Coachella. Interested public interest groups have been formally and informally contacted, and informal coordination is continuing with Federal, state, and local agencies.

A Notice of Intent to prepare a draft environmental statement on the Coachella Canal was published in the Federal Register in February 1988.

A newsletter was released in February 1988 on the prototype explaining the new technology

of in-place lining on the Coachella Canal.

Formal public scoping meetings have been tentatively scheduled to be held in March 1988, in Coachella and El Centro, California.

SOCIAL

A potential increase in human drownings has been identified as the major negative social impact for both the canals; otherwise, social impacts are judged to be negligible and beneficial. This judgment is based on the relatively small construction workforce, the high current unemployment rate in the area, and the area's isolation from urban areas. No significant demographic, housing, or community services changes are anticipated. The additional water supply would have a minor beneficial effect on the area's economic base and quality of life.

Several mitigation techniques are under consideration, and if proven effective, would largely eliminate the concern of potential increased drownings. Techniques that have been analyzed on a preliminary basis are partial fencing, complete fencing, ladders, warning signs, float booms, and an educational program. Mammal entry and escape steps also have the potential for reducing the drowning hazard.

OUTSTANDING INSTITUTIONAL ISSUES

The two issues identified during plan formulation are associated with the full-scale lining of the All-American Canal. No issues have been identified for the prototype.

PLAN FORMULATION RESULTS

A major water rights issue is the use of conserved water. Some local water users believe that California state and Federal policies encourage the sale or transfer of conserved agricultural water to any municipal and industrial user. Other water users believe that the provisions of the California Seven-Party Agreement and the water delivery contracts between the water users and the Secretary specify, that water not beneficially used by a higher priority user will be delivered without remuneration to the next lower priority user. This issue could ultimately be resolved by negotiation, legislation, or litigation. A Solicitor's Opinion has been requested to determine if conserved water from the Colorado River can be sold or whether it will automatically go to the next lower priority user.

Imperial Irrigation District supports lining the All-American Canal but maintains that Imperial should be the non-Federal sponsor. Imperial is currently negotiating an agreement with Metropolitan for the transfer of conserved water. A similar type agreement would be required with Metropolitan or others if Imperial were to fund lining of the All-American Canal.

For both the All-American and Coachella Canals, a less severe but still important issue to the affected irrigation districts involves upgrading water delivery facilities. Since these districts would receive no additional water from in-place lining of the canals but are still responsible for the operation and maintenance of the canal systems, improved delivery

system efficiency is an important consideration. Thus, their support for the full-scale lining will ultimately depend upon achieving an acceptable balance between minimizing construction costs and providing improved delivery system capabilities.

IN-PLACE LINING CONCEPT

A brief discussion of the concept of in-place lining is presented to aid the reader in understanding the latest technological advances Reclamation is pursuing.

The in-place lining concept consists of trimming and filling the existing canal to shape and then placing a plastic liner on the bottom and sides of the canal to prevent seepage. The liner would be protected and held in place by 3 inches of concrete placed on top of the plastic. A mobile structural steel platform would be used to span the canal (see engineer's concept, figure 1). Incorporated into the platform would be the equipment to trim and fill the existing canal prism, place the plastic liner, place a geotextile sheet to assist the concrete in adhering to the side slope, and cover the liner with concrete. The equipment would travel on a specially designed guidance system on each side of the canal. In order to accommodate continued canal operation, the lining would be placed in two or more longitudinal strips. The number of longitudinal strips is dependent upon the size of the canal and the velocity of flow.

PLAN FORMULATION RESULTS

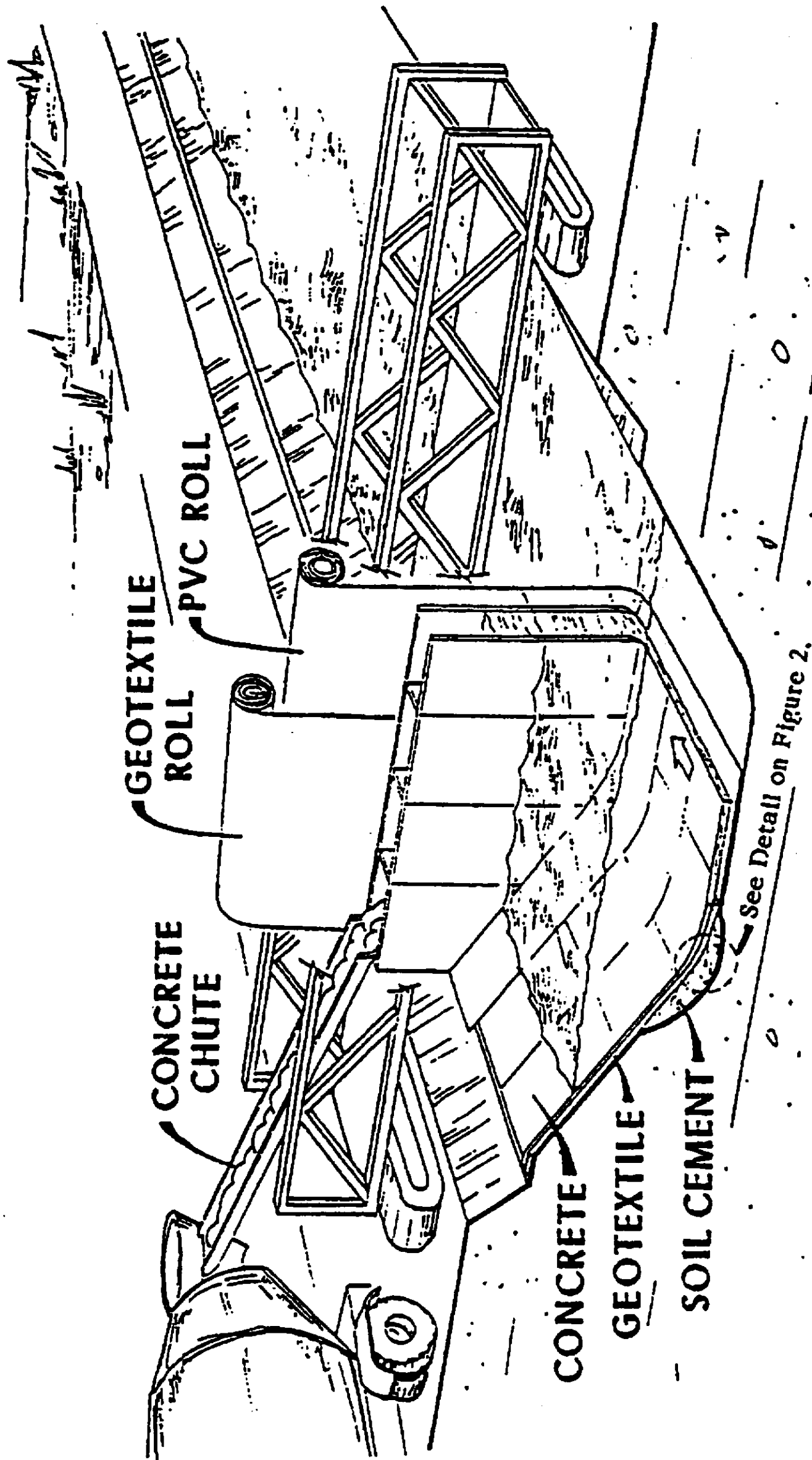


Figure 1. Drawing of Moving Structural Steel In-Place Lining Platform.

PLAN FORMULATION RESULTS

Entry and Escape Steps

Generally, escape ramps or ladders are installed at various locations along a canal to help large mammals (deer and bighorn sheep) escape after having slipped into the canal while drinking. The in-place lining design concept of placing concrete with a slipform allows forming continuous linear steps that run the entire length on the canal side slopes. These linear steps (see figure 2) would be used for large mammal entry and escape. The steps, which have been incorporated into the design for the prototype and the full-scale lining, would be about 1-1/2 inches deep and would be spaced every 18 inches.

Prototype

Since in-place lining during canal operation is a new technique, designers recommend constructing and testing a prototype on a 1- to 2-mile area of canal. The in-place lining design for the prototype has been completed and includes the entry and escape steps. The prototype would be constructed to provide information to refine cost estimates, determine design data requirements, evaluate environmental impacts, and refine machinery operation before embarking upon full-scale in-place lining of the All-American and Coachella Canals.

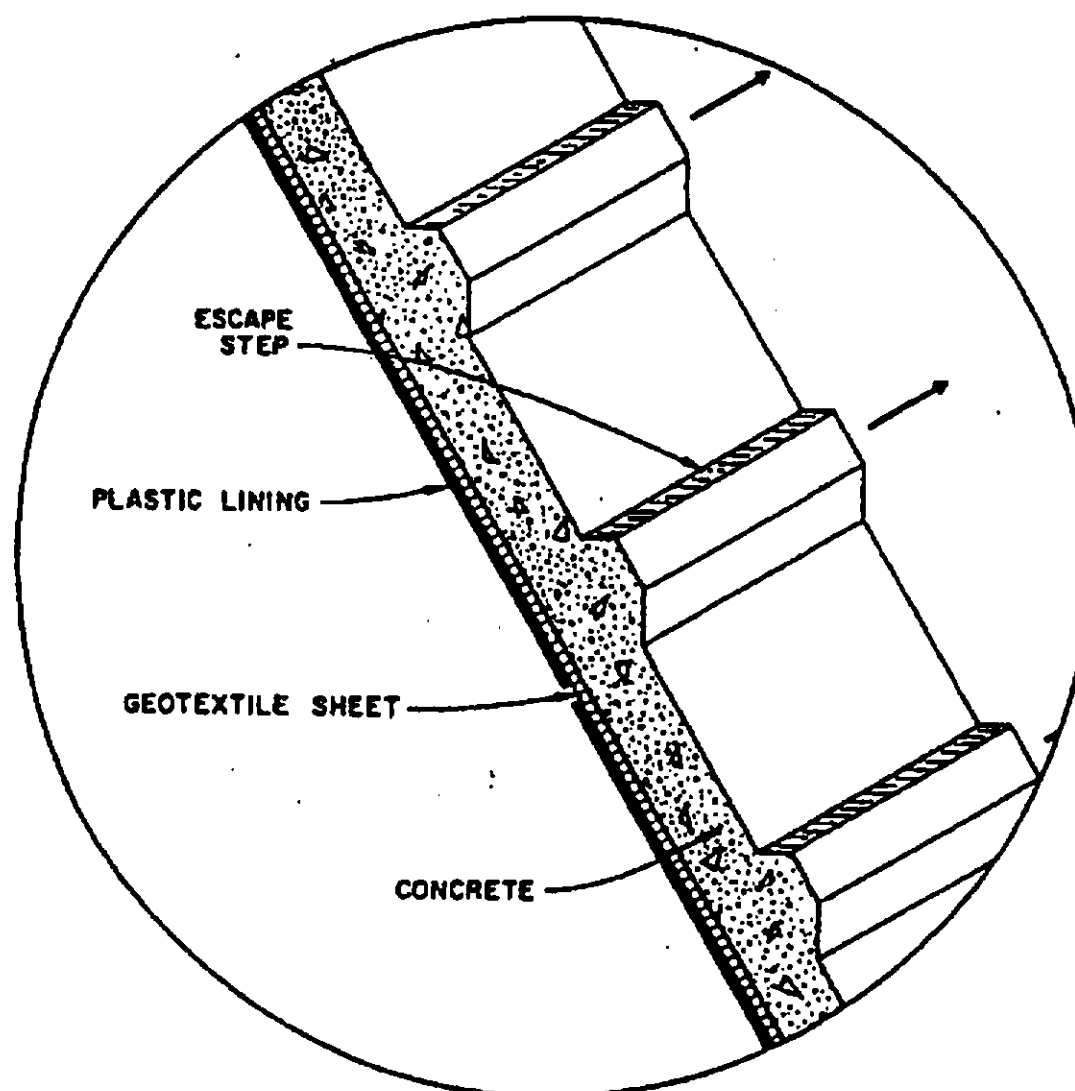


Figure 2. Cross Section and Schematic of Entry and Escape Steps.

PLAN FORMULATION RESULTS

A number of potential test construction sites were proposed including the All-American Canal, various canals within the Imperial Irrigation District's distribution system, and several reaches of the Coachella Canal. A 1.5-mile reach of the Coachella Canal, between Siphon 14 and Siphon 15 (see figure 3 for location) was selected for testing the prototype because (1)

the Coachella Canal is smaller in size than the All-American Canal and the cost would be less, (2) the experience and knowledge gained from the test would be applicable to both larger and smaller canals, (3) the potential for local cost sharing was the greatest, and (4) the potential existed for lining the Coachella Canal where Federal costs would be recovered.

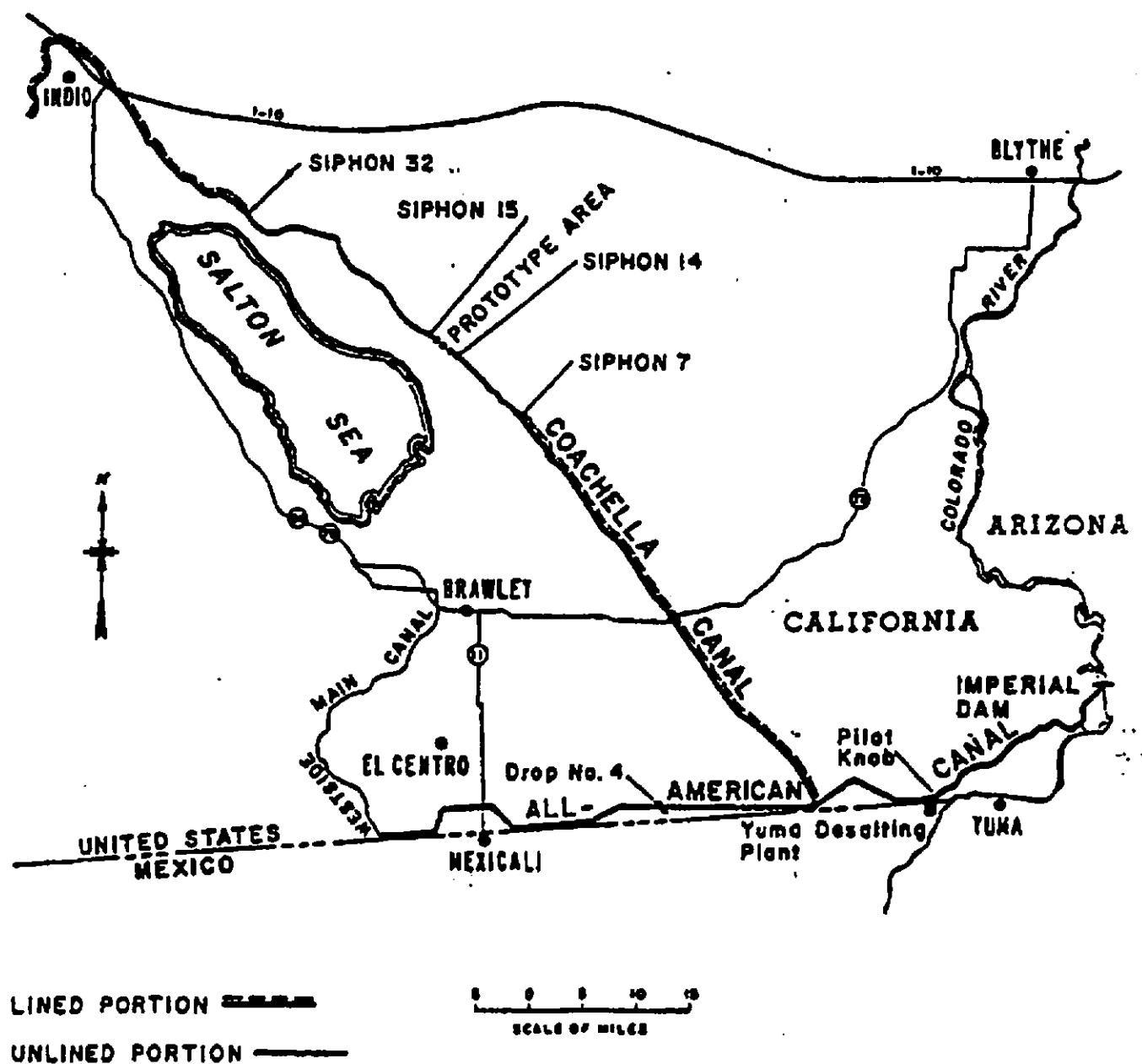


Figure 3. Location Map of Prototype Construction.

FUTURE ACTIVITIES

The future activities that are expected to lead to construction of the full-scale lining using non-Federal funds are those activities associated with the actual construction and evaluation of the 1.5-mile in-place lining prototype and the completion of the NEPA compliance documents.

Before construction of the prototype, the environmental assessment and the approval of the expected finding of no significant impact must be completed and is scheduled for June 1988. The construction of the prototype on the Coachella Canal is scheduled to begin in the autumn of 1988, and would be based on the design concept developed during plan formulation. The prototype would be constructed and evaluated, and the results and findings would be documented in a special technical report. Engineering and technical details would be refined after the prototype construction. Assuming the prototype verifies that in-place lining technology is cost competitive as is anticipated, and construction authorization is obtained, the full-scale lining would proceed with Reclamation filing two environmental documents about April 1990. Provided no irreconcilable environmental impacts are identified, Reclamation would proceed with preparing final designs and managing construction.

Ultimately, design, construction, and lining of the All-American Canal and Coachella Canal would proceed upon approval and commitment of funds by project sponsors.

PROTOTYPE CONSTRUCTION

The construction of the prototype would be accomplished as designed using the mobile structural steel platform sized for the 48-foot-wide Coachella Canal bottom. The prototype construction would be in the 1.5-mile reach of the canal between Siphon 14 and Siphon 15 as shown in figure 3. The prototype would include the entry and escape steps.

Following release of the specifications for the prototype, the construction contractor would be selected through negotiated procurement procedures because of the innovative nature of the construction. Award of the construction contract is anticipated for August 1988, provided the Federal share of the funds become available. Actual construction of the prototype is expected to begin in November or December 1988 and is anticipated to take about 3 months. Experience gained during construction of the prototype would be applied directly to the design and construction of the full-scale lining of the All-American and Coachella Canals.

SPECIAL TECHNICAL REPORT

Upon completion of the prototype construction, all aspects of the in-place lining construction process would be evaluated and documented in a special technical report that would be available to the public. Areas of special interest would include processes and/or construction techniques,

FUTURE ACTIVITIES

design concepts, analysis of the effectiveness of in-place lining for seepage reduction, construction and operation costs, and analysis of environmental issues, as appropriate.

REFINE DETAILS

Engineering and technical details, such as construction cost estimates, estimates of seepage losses, and geohydrologic data would be refined after the construction of the prototype.

Present construction cost estimates for lining the All-American and Coachella Canals are preliminary and reflect a high degree of uncertainty. Upon completion of the prototype, sufficient information should be available to reduce uncertainties. Cost estimates would be refined using updated information.

Estimates of seepage losses from the Coachella Canal are based upon preliminary analysis of available data. Additional analyses would be completed to improve the confidence level of the loss estimates.

Preliminary geohydrologic data suggest that some reaches of the Coachella Canal may not require lining. Additional geohydrologic data would be collected and analyzed to identify reaches where major seepage losses occur and to determine specific reaches of unlined canal to recommend for lining.

NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE

Environmental

Environmental statements would be prepared to comply with NEPA and to provide Interior with the necessary environmental information to be integrated into the decisionmaking process. Two separate draft environmental statements would be prepared—one on the All-American Canal and the other on the Coachella Canal. Principle reasons for separate documents are that the environmental and legal and institutional consequences would not necessarily be the same for each canal. The cumulative impacts of the two proposed actions would, however, be fully addressed in the draft statements due to the similarity of the actions and the close geographic proximity of the canals.

The Section 7(c) consultation process and coordination with the Service under the terms of the Fish and Wildlife Coordination Act would be completed for the Coachella Canal. Additional geohydrology studies, which include the installation of observation wells, would also be conducted to define the relationship between canal seepage and the existing marsh and riparian areas along the Coachella Canal, and the hydraulic connection between the seepage and the Salton Sea.

FUTURE ACTIVITIES

Active programs are planned to monitor the prototype and the large mammal entry and escape steps, the effectiveness of the steps, and the construction impacts on water quality and the aquatic resources of the Coachella Canal. The information from these monitoring programs would be directly applicable to both the All-American and Coachella Canals. The efforts are being fully coordinated with the Service, the California Department of Fish and Game, and other concerned agencies and entities.

Public Involvement

Public involvement programs for each of the two canals are presently being developed. Newsletters regarding the proposed actions would be an integral part of the public involvement programs, as would public meetings and interagency coordination.

Social

The social analysis for the All-American Canal would be updated to include an evaluation of impacts

between current population and construction-related population. A major issue that would be addressed would be the selection of a preferred mitigation technique for prevention of drownings. The techniques would need to be discussed and refined with public entities. After the completion of the prototype, the large mammal entry and escape steps would be evaluated for their impact on reduction of human drownings.

A social analysis for the Coachella Canal would be completed. Information and concerns communicated through the public involvement programs would be integrated into the analysis.

STUDY SCHEDULE

The tentative schedule of major future activities is shown on the following tabulation.

Construction on the All-American and/or Coachella Canal could begin as early as fiscal year 1992, but is dependent upon: (1) the results of legislation, (2) completion of NEPA compliance, and (3) the needs of the non-Federal project sponsors.

Schedule of Future Activities

Activity	Proposed Completion Date
Prototype	
Environmental Assessment	June 1988
Award Construction Contract	August 1988
Construction Initiated	November 1988
Special Technical Report	September 1989
NEPA Compliance	
Draft Environmental Statements	April 1990
Final Environmental Statements	October 1991

CONCLUSIONS

The results of plan formulation activities suggest that justification exists to vigorously pursue a program to construct an in-place lining prototype and complete NEPA compliance documents in anticipation of lining the All-American and Coachella Canals provided non-Federal project sponsors are successful in obtaining project authorization.

The project sponsors appear willing to finance upfront 60 percent of the prototype construction and 100 percent of the full-scale lining construction cost. Congress has directed Interior to request funding for the remaining 40 percent of the construction cost for the prototype. Since project sponsors are pursuing authorization through their Congressional delegation, Interior would not proceed with the planning documents associated with seeking construction authorization. Reclamation would, however, be required to complete two environmental statements for construction on the Federal canal facilities.

WATER SUPPLY

Seepage accounts for a considerable loss of water annually from the All-American and Coachella Canals. Analyses indicate that these canals combined are losing from about 119,000 acre-feet to 160,000 acre-feet annually. Lining both canals

could conserve from about 90,000 to 115,000 acre-feet annually now lost to seepage.

COST COMPETITIVE

The cost of water conserved by in-place lining is competitive with other sources that might be used to meet future water needs in southern California according to project sponsors. Since no Federal funds are required, the decision to proceed with the full-scale lining will remain with project sponsors. However, an updated cost comparison would be required by project sponsors at completion of the prototype construction.

ENVIRONMENTAL ISSUES

Since Federal facilities are involved, Reclamation has responsibility for filing the NEPA compliance documents. Environmental issues associated with the lining program, include endangered species, impacts on fish resources, and large mammal entry and escape. All of these issues appear to be manageable and are not anticipated to present insurmountable barriers to implementation of lining. These issues will be addressed in the NEPA compliance documents.

CONCLUSIONS

OUTSTANDING ISSUES

Two issues concerning use of conserved water are still outstanding--water rights and Federal use for reject stream replacement.

Water Rights

The water rights issue on use of conserved water must be resolved before the full-scale lining could be started. This issue could ultimately be resolved by negotiation, legislation, or litigation.

Reject Stream Replacement

Since the legislation that was introduced did not mention the Federal use of conserved water for reject stream replacement, the United States still has an obligation to develop a source of replacement water for the reject stream from the Yuma Desalting Plant. Unless weather modification proves to be a viable option and is acceptable to the States, no other implementable options have been identified at this time.